

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ADAM MICHAEL ESPESETH,  
ROBERT ANTON STEINBACH and  
TREVOR JAMES BRIGGS

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Appeal 2007-0915  
Application 10/764,946<sup>1</sup>  
Technology Center 2100

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Decided: May 21, 2007

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Before: RICHARD TORCZON, SALLY C. MEDLEY, and MARK  
NAGUMO, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

1           **A. Statement of the Case**

2           Applicants appeal under 35 U.S.C. § 134 from a final rejection of  
3           claims 1-5 and 7-20. We have jurisdiction under 35 U.S.C. § 6(b).

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1   Application for patent filed 26 January 2004. The real party in interest is Hitachi Global Storage Technologies, Netherlands, B.V.

1       The prior art relied upon by the Examiner in rejecting the claims on  
2 appeal is:

3       Clegg                   US 6,721,845 B1           Apr. 13, 2004  
4

5       Claims 1 and 5 stand rejected under 35 U.S.C. § 103(a) as being  
6 unpatentable over Clegg (Final Rejection at 3 and Answer at 3).

7                                   **BACKGROUND**

8       The invention relates to a hard disk drive (HDD) that includes at least  
9 one rotatable disk and at least one data transfer element. The data transfer  
10 element is controlled by a controller, which executes commands in a queue.  
11 Commands are selected to be executed based on either an optimized  
12 throughput benefit, or an optimized operation rate benefit.

13                   **B. Issue**

14       The issue is whether Applicants have shown that the Examiner has  
15 failed to sufficiently demonstrate that there is a legal basis for rejecting  
16 claims 1 and 5 over Clegg?

17       For the reasons that follow, Applicants have failed to demonstrate that  
18 the Examiner's rejection is legally incorrect.

19                   **C. Findings of fact ("FF")**

20       The record supports the following findings of fact as well as any other  
21 findings of fact set forth in this opinion by at least a preponderance of the  
22 evidence.

- 23       1.     Applicants' claims 1 and 5 are the subject of this appeal.
- 24       2.     Claim 1 is as follows:

1 A hard disk drive (HDD) comprising:  
2 at least one rotatable disk;  
3 at least one data transfer element; and  
4 at least one HDD controller controlling the data transfer element to  
5 execute commands in a queue, at least one command being selected for  
6 execution based on at least one of: an optimized throughput benefit, or  
7 an optimized operation rate benefit, wherein the throughput benefit is  
8 determined based at least in part on a pipe length.

9 3. Instead of reciting “or an optimized operation rate benefit” original  
10 claim 1 recited “and an optimized operation rate benefit.” (‘946, original  
11 claim 1.)

12 4. In a paper dated JUN 01 2006 and styled “RESPONSE TO  
13 TELEPHONE INTERVIEW,” Applicants explained the change from “and”  
14 to “or” as follows:

15 With respect to the changes in the claims from “and” to “or” in  
16 certain instances, Applicant has been made aware of Superguide  
17 Corp. v. DirectTV Enterprises, Inc., 358 F.3d 870 (Fed. Cir.  
18 2004) in which a claim recitation of “at least one of A, B, C, and  
19 D” was held to minimally require at least one element from each  
20 of the categories A, B, C, and D, not one or more elements from  
21 one or more categories as intended in the present case, with the  
22 Federal Circuit noting that for the latter interpretation to hold,  
23 the conjunctive “or” should be used. Accordingly, the present  
24 amendment is believed to reconcile, with the Superguide case,  
25 both Applicant’s intended claim scope and what Applicant  
26 believes to have been the examiner’s understanding of the  
27 claimed invention when examination was conducted.  
28

1           5. In the Appeal Brief, under section (5) styled “Summary of Claimed  
2 Subject Matter,” Applicants state that claim 1 includes “[a]t least one  
3 command is selected for execution based on an optimized throughput benefit  
4 (page 7 and figure 2) and/or an optimized operation rate benefit (page 8 and  
5 figure 3), wherein the throughput benefit is determined based on a pipe  
6 length ....” (Emphasis added) (Appeal Br. at 2-3).

7           6. The Examiner finally rejected independent claim 1 and dependent  
8 claim 5 based on Clegg.

9           7. The Examiner argued that Clegg teaches both selecting a command  
10 based on an optimized throughput benefit and an optimized operation rate  
11 benefit (Answer 4).

12           8. For the optimized operation rate benefit feature, the Examiner  
13 relied on Clegg column 2, lines 25-30 to column 3, line 4 (Answer 4 and 7).

14           9. In the Appeal Brief and Reply Briefs, Applicants’ argument is  
15 based solely on that Clegg fails to describe “wherein the throughput benefit is  
16 determined based at least in part on a *pipe length*” (emphasis added) (Appeal  
17 Br. 4-5; Reply Br. 1-2, dated Sept. 19, 2006; Reply Br. 1-2, dated Oct. 25,  
18 2006).

19           10. Applicants do not dispute that Clegg describes selecting a  
20 command for execution based on an optimized operation rate benefit.

21           **D. Principles of Law**

22           Claim interpretation is a question of law, but the subordinate findings  
23 relating to proper claim construction are issues of fact. Claim elements must  
24 be construed as they would be understood by those skilled in the art. *See*

1 *Hoechst Celanese Corp. v. B.P. Chems., Ltd.*, 78 F.3d 1575, 1578, 38  
2 USPQ2d 1126, 1129 (Fed. Cir. 1996).

3 **E. Analysis**

4 Claim 1, when properly interpreted, requires selection of a command  
5 to be executed based on at least one of (1) an optimized throughput benefit,  
6 which is determined based at least in part on a pipe length, or (2) an  
7 optimized operation rate benefit (FF 2). Claim 1 does not require selection of  
8 the command based on both an optimized throughput benefit and an  
9 optimized rate benefit. Applicants apparently agree with this interpretation  
10 (FFs 4 and 5).

11 A reference that describes either an optimized throughput benefit  
12 (determined based at least in part on a pipe length) or an optimized operation  
13 rate benefit meets the optimized limitation.

14 Applicants' arguments are with respect to the "optimized throughput  
15 benefit" limitation, e.g., whether Clegg describes an optimized throughput  
16 benefit that is determined based on pipe length (FF 9). Applicants are silent  
17 with respect to whether Clegg describes an "optimized operation rate  
18 benefit." Since Applicants have failed to sufficiently demonstrate that the  
19 Examiner's findings that Clegg describes an "optimized operation rate  
20 benefit" (FF 7) are erroneous, the Examiner's rejection of claim 1 is  
21 affirmed.

22 Since Applicants do not separately address dependent claim 5 in the  
23 Appeal Brief or Reply Briefs (FF 9), claim 5 stands or falls together with the  
24 base rejection and therefore the rejection of claim 5 is also sustained.

**E. Decision**

Upon consideration of the record, and for the reasons given, the Examiner's rejection of claims 1 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Clegg is affirmed.

**No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).**

**AFFIRMED**

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